UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103

SUBJECT: Review of Bally Facility Vapor Intrusion Evaluation Summary

FROM: Jennifer Hubbard, Toxicologist
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TO: Mitch Cron, RPM
Western PA and MD Remedial Branch (3HS22)

DATE: 2/1/2007

I have reviewed the above document with particular attention to human health risk assessment issues. The following comments are offered.

On Table 2, the 1,1-dichloroethane PADEP screening number should be 50, not 510.

On page 14, 2nd paragraph, "cis-1,1-dichloroethene" should be "cis-1,2-dichloroethene."

The risk assessment was reportedly based on average concentrations. It was not clear how this was done: specifically, which estimate of the average was used (e.g., the UCL on the mean, as is common, or some other estimate of the average); how non-detects were handled; how duplicates were handled. Nevertheless, even using the maximum concentrations (which would be the more typical procedure with data sets this small), the indoor risks that were evaluated in Section 5 would still be within the 1E-6 to 1E-4 cancer-risk range, and the HIs would still not exceed 1.

However, the indoor air risks in Section 5 did not include all sampled areas of the facility. The two highest-concentration areas, Impress and L& Z, were not evaluated. The report attributes their detections to indoor sources from the L & Z tenant, and claims that these sources affect the Impress space as well (see, e.g., Sections 4.3.2.1, 4.3.2.2, 5.3, and 6). However, there was no evidence presented that the current tenant uses the chemicals of interest. Additionally, it is noted that the three chemicals found in the Impress and L & Z space are the same three chemicals found in all the other spaces (TCE, 11DCE, and 111TCA), and that these three chemicals are also found in the subslab vapors beneath the Impress and L & Z areas (which would not have come from tenant use of chemicals). Therefore, while some of the indoor air concentrations may or may not be coming from tenant use, contribution from subslab vapors cannot be ruled out. I understand that you have recently conducted an investigation using the TAGA van, in an effort to identify whether indoor sources are of interest. That should prove helpful in source attribution.

If the L & Z space had received a risk assessment, the HI would have been 0.6 and the cancer risk would have ranged from 4E-5 to 9E-4. This indicates that the TCE cancer risk is of

potential concern.

If the Impress space had received a risk assessment, the HI would have been 3 (based on arithmetic mean concentrations) or 6.5 (based on maximum concentrations). The cancer risk would be 2E-4 to 4E-3 (average concentrations) or 4E-4 to 9E-3 (maximum concentrations). This indicates that the TCE cancer and noncancer risks would be of concern for this space, if workers were to use it regularly without respiratory protection.

The subslab results should also be examined for the total picture of what is occurring at this facility. Because indoor air concentrations may fluctuate, the presence of high concentrations in the subslab environment merits consideration, even where indoor air concentrations are currently low. Of particular note are the subslab concentrations in the Impress, Gregory's, T.G., L & Z, Stauffer, and Hunsinger spaces, which are several orders of magnitude above the state and EPA screening concentrations for air. Even allowing for attenuation as chemicals move from the subslab environment into a ventilated indoor air space, vapor intrusion may be of concern for the future, although current worker risks are within acceptable ranges for most of these areas. In the Impress and L & Z areas, current indoor air concentrations could pose an unacceptable risk for workers who are exposed regularly over a number of years.

The S & W, Office area, and Great American Weaving locations appear to offer much less likelihood of vapor intrusion at levels of concern, although it must be admitted that the number of samples on which to base this conclusion is relatively small.

If you have any questions concerning this review, please call me at x3328.

cc: Eric Johnson (3HS41)
Kathy Davies (3HS41)